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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,118	03/30/2001	George Malcolm Swift Joynes	3036/49818	3267

7590 06/03/2005

CROWELL & MORING LLP.
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
Washington, DC 20044-4300

EXAMINER

CHAU, COREY P

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/821,118	JOYNES, GEORGE	
	Examiner	Art Unit	
	Corey P. Chau	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 65-96 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 65-96 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 75 is objected to because of the following informalities: on line 1, recites "Claim 74" which should be replaced with "Claim 65". Appropriate correction is required.
2. Claim 78 is objected to because of the following informalities: on line 1, recites "in any of Claim 65", which should be replaced with "in Claim 65". Appropriate correction is required.
3. Claim 93 is objected to because of the following informalities: on line 1, recites "a method", which should be replaced with "The method". Appropriate correction is required.
4. Claims 94 and 95 are objected to because of the following informalities: on line 1, recites "Apparatus", which should be replaced with "The method". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 80 and 95 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

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which it pertains, or with which it is most nearly connected, to make and/or use the invention. The application recites in Claims 80 and 95; "a tracking device is a video tracking device". However, no details are given as to how the tracking device would communicate with measuring device, which is an optical device used to receive light reflected from the transducer, such as signal measurements used to reduce noise and how to provide this information to the measuring device, and thus one of ordinary skill in the art would be unable to actually make and use the invention. In this regards, the specification is merely an invitation to experiment.

7. Claims 65-74, 83-88, and 91-92 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The term "substantially" in claim 65 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

9. The term "approximately" in claims 65 and 83 are a relative term which renders the claim indefinite. The term "approximately" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

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10. Regarding Claims 65 and 66-70, it is unclear to the Examiner how "said transducer includes pressure sensitive paint" recited in Claim 66; "pressure sensitive paint applied to the skin of the observer" recited in Claim 67; "said transducer comprises human skin" recited in Claim 68; "said skin comprises a part of the ear of the observer" recited in Claim 69; and "said skin is a part of one of a human pinna, a human concha, and a human cavum" recited in Claim 70 can be a **"transducer is mounted on the body of the observer"** as recited in Claim 65. Claim 66-70 contradicts Claim 65.

11. Claims 83 and 84-88 are rejected for the same reasons stated above regarding Claims 65 and 66-70.

12. Regarding Claims 65 and 71-74, it is unclear to the Examiner how the "transducer comprising a sensor" would operate with the apparatus of Claim 65, wherein the "the transducer wirelessly transmits the signal, representing sound in the vicinity of the ear canal, to the measuring device; the wireless transmission of **the signal takes the form of light reflected from the transducer**; and said measurement device is an optical device".

13. Claims 83 and 91-92 are rejected for the same reasons stated above regarding Claims 65 and 71-74.

14. Claim 69 recites the limitation "said skin" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

15. Regarding Claim 72, it is unclear to the Examiner what Claim 72 should depend on. Note: amendment to the claim would change the scope of the claim.

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16. Claim 87 recites the limitation "the skin" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 65, 71-83, and 89-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5133017 to Cain in view of U.S. Patent No. 5018203 to Sawyers et al. (hereafter as Sawyers).

19. Regarding Claim 65, Cain discloses an apparatus for reducing noise in an area proximate an ear of an observer (Figs. 1 and 2), comprising; a transducer (Figs. 1 and 2) arranged to transduce noise sound substantially in said area into a signal; a measuring device (Fig. 6) arranged to measure the signal from the transducer; and a sound cancellation device (46) configured to receive information from the measuring device, generate a cancellation sound of approximately an equal intensity and opposite polarity to said noise sound, and transmit said cancellation sound to said area thereby substantially reducing the amount of noise sound audible in said area by said observer (abstract); wherein, the transducer is mounted on the body of the observer; the measuring device is remote from the transducer (Figs. 1 and 2). Cain discloses not expressly discloses the transducer wirelessly transmits the signal, representing sound in

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the vicinity of the ear canal, to the measuring device; the wireless transmission of the signal takes the form of light reflected from the transducer; and said measurement device is an optical device. However it would have been obvious to one having ordinary skill in the art to utilize any well-known measurement device in order to measure a signal from a transducer, as taught by Sawyers. Sawyers discloses an interferometer utilized as a sensing means (i.e. measuring device) to detect movement. Therefore it would have been obvious to one having ordinary skill in the art to modify Cain with the teaching of Sawyers to utilize any well-known measuring device, such as an interferometer, wherein the interferometer having a laser, which directs light to a beam splitter. One component of the light is directed on to a transducer and the other component is directed on to a mirror, these two components being compared in a detector the output of which is representative of the deflection of the transducer (i.e. the transducer wirelessly transmits the signal, representing sound in the vicinity of the ear canal, to the measuring device; the wireless transmission of the signal takes the form of light reflected from the transducer; and said measurement device is an optical device) (Fig. 6; column 1, lines 56-61; column 3, lines 34-44).

20. All elements of Claim 71 are comprehended by Claim 65. Claim 71 is rejected for the reasons stated above apropos to Claim 65.

21. Regarding Claim 72, Cain as modified the transducer comprises a sensor embedded in an item of jewelry adapted for wearing on the ear of the observer. However it would have been obvious to one having ordinary skill at the time the

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invention was made to had a sensor embedded in a object near the ear of the observer, such as jewelry that can be wore on an observer's ear.

22. Claims 73 and 74 are essentially similar to Claim 72 and is rejected for the reasons stated above apropos to Claim 72.

23. All elements of Claim 75 are comprehended by Claim 65. Claim 71 is rejected for the reasons stated above apropos to Claim 65.

24. All elements of Claim 76 are comprehended by Claim 65. Claim 71 is rejected for the reasons stated above apropos to Claim 65.

25. Regarding Claim 77, Cain as modified discloses a noise cancellation controller (i.e. sound cancellation device) includes processing means to select a predominant frequency component of the required cancellation signal (i.e. a filter disposed between said measuring device and said cancellation device, and arranged to pass a range of frequencies, thereby enabling said apparatus to cancel noise sound based on a frequency of said noise) (claim 15).

26. Regarding Claim 78, Cain as modified discloses a tracking device arranged to search for said transducer, to acquire a location of said transducer, and to track said location of said transducer, said tracking device being further arranged to communicate said location of said transducer to said measuring device (Fig. 10; column 7, lines 18-65).

27. Regarding Claim 79, Cain as modified discloses said tracking device is disposed in a headrest (Fig. 10).

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28. Regarding Claim 80, Cain as modified does not expressly disclose said tracking device is a video tracking device. However it would have been obvious to one having ordinary skill in the art to utilize any well-known tracking device, such as a video tracking device to track location of the transducer.

29. Regarding Claim 81, Cain as modified discloses a further measuring device disposed remote from said area and arranged to measure background noise proximate to said area, said background noise being communicated to said sound cancellation device to facilitate reducing the amount of noise audible in said area column 7, line 18 to column 8, line 6).

30. All elements of Claim 82 are comprehended by Claim 81. Claim 82 is rejected for the reasons stated above apropos to Claim 81.

31. Claim 83 is essentially similar to Claim 65 and is rejected for the reasons stated above apropos to Claim 65.

32. All elements of Claim 89 are comprehended by Claims 65 and 83. Claim 89 is rejected for the reasons stated above apropos to Claims 65 and 83.

33. All elements of Claim 90 are comprehended by Claims 65 and 83. Claim 90 is rejected for the reasons stated above apropos to Claims 65 and 83.

34. Claim 91 is essentially similar to Claim 71 and is rejected for the reasons stated above apropos to Claim 71.

35. Claim 92 is essentially similar to Claim 72 and is rejected for the reasons stated above apropos to Claim 72.

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36. Claim 93 is essentially similar to Claim 77 and is rejected for the reasons stated above apropos to Claim 77.

37. Claim 94 is essentially similar to Claim 78 and is rejected for the reasons stated above apropos to Claim 78.

38. Claim 95 is essentially similar to Claim 80 and is rejected for the reasons stated above apropos to Claim 80.

39. Claim 96 is essentially similar to Claim 81 and is rejected for the reasons stated above apropos to Claim 81.

40. Claims 66-70 and 84-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5133017 to Cain in view of U.S. Patent No. 5018203 to Sawyers as applied to claims 65, 71-83, and 89-96 above, and further in view of U.S. Patent No. 5359887 to Schwab et al. (hereafter as Schwab).

41. Regarding Claim 66, Cain as modified does not expressly disclose said transducer includes pressure sensitive paint. However it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide such a pressure sensitive paint to the transducer in order to enhance measurement of pressure, as taught Schwab.

42. Regarding Claim 67, Cain as modified does not expressly discloses the transducer comprises a pressure sensitive paint applied to the skin of the observer. However it would have been obvious to one having ordinary skill in the art to utilize any transducer that can provide a signal to the interferometer, such as a human ear shown

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in Cain which deflect due to sound waves. It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a pressure sensitive paint to the skin of the ear in order to enhance measurement of pressure, as taught Schwab.

43. All elements of Claim 68 are comprehended by Claim 67. Claim 68 is rejected for the reasons stated above apropos to Claim 67.

44. All elements of Claim 69 are comprehended by Claim 67. Claim 69 is rejected for the reasons stated above apropos to Claim 67.

45. Regarding Claim 70 Cain as modified does not expressly disclose said skin is a part of one of a human pinna, a human concha, and a human cavum. However it would have been obvious to one having ordinary skill in the art to utilize any part of the human ear such as the human pinna, a human concha, or a human cavum.

46. Claim 84 is essentially similar to Claim 66 and is rejected for the reasons stated above apropos to Claim 66.

47. Claim 85 is essentially similar to Claim 67 and is rejected for the reasons stated above apropos to Claim 67.

48. Claim 86 is essentially similar to Claim 68 and is rejected for the reasons stated above apropos to Claim 68.

49. Claim 87 is essentially similar to Claim 69 and is rejected for the reasons stated above apropos to Claim 69.

50. Claim 88 is essentially similar to Claim 70 and is rejected for the reasons stated above apropos to Claim 70.

Response to Arguments

51. Applicant's arguments with respect to claims 65-96 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

52. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

53. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P. Chau whose telephone number is (571)272-7514. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Sinh can be reached on (571)272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 31, 2005

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XU MEI
PRIMARY EXAMINER